Environmental Commissioner of Ontario

BIODIVERSITY: A NATION S COMMITMENT, AN OBLIGATION FOR ONTARIO

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Environmental Commissioner of Ontario | Special Report to the Legislative Assembly of Ontario | January 2012

Environmental
Commissioner
of Ontario

Commissaire à
l'environnement
de l'Ontario

Gord Miller, B.Sc., M.Sc.
Commissioner

Gord Miller, B.Sc., M.Sc.
Commissaire

January 2012

The Honourable Dave Levac
Speaker of the Legislative Assembly of Ontario

Room 180, Legislative Building
Legislative Assembly
Province of Ontario
Queen's Park

Dear Speaker:

In accordance with section 58(4) of the *Environmental Bill of Rights, 1993*, I present the attached Special Report of the Environmental Commissioner of Ontario for your submission to the Legislative Assembly of Ontario. This Special Report addresses a matter of concern that affects all Ontarians: the conservation of our province's biodiversity.

A key purpose of the *Environmental Bill of Rights, 1993* is the protection and conservation of biological, ecological and genetic diversity. The Government of Ontario has a public duty to pursue this goal for the benefit of present and future generations. While the government has the primary responsibility for achieving this goal, all Ontarians should have the means to ensure that it is achieved in an effective, timely, open and fair manner.

I am releasing this Special Report to provide the Members of Provincial Parliament and the public with a vision for a strategic plan of action for Ontario's biodiversity. This issue is of particular importance now as the period from 2011 to 2020 has been declared the "International Decade for Biodiversity" by the United Nations.

Sincerely,

Gord Miller
Environmental Commissioner of Ontario

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Let us reflect

on the root causes of biodiversity decline and take action to arrest it. Let us adjust policies and mind-sets to reflect the true value of species and habitats. Let us recognize that biodiversity is life—our life. Let us act now to preserve it, before it is too late.

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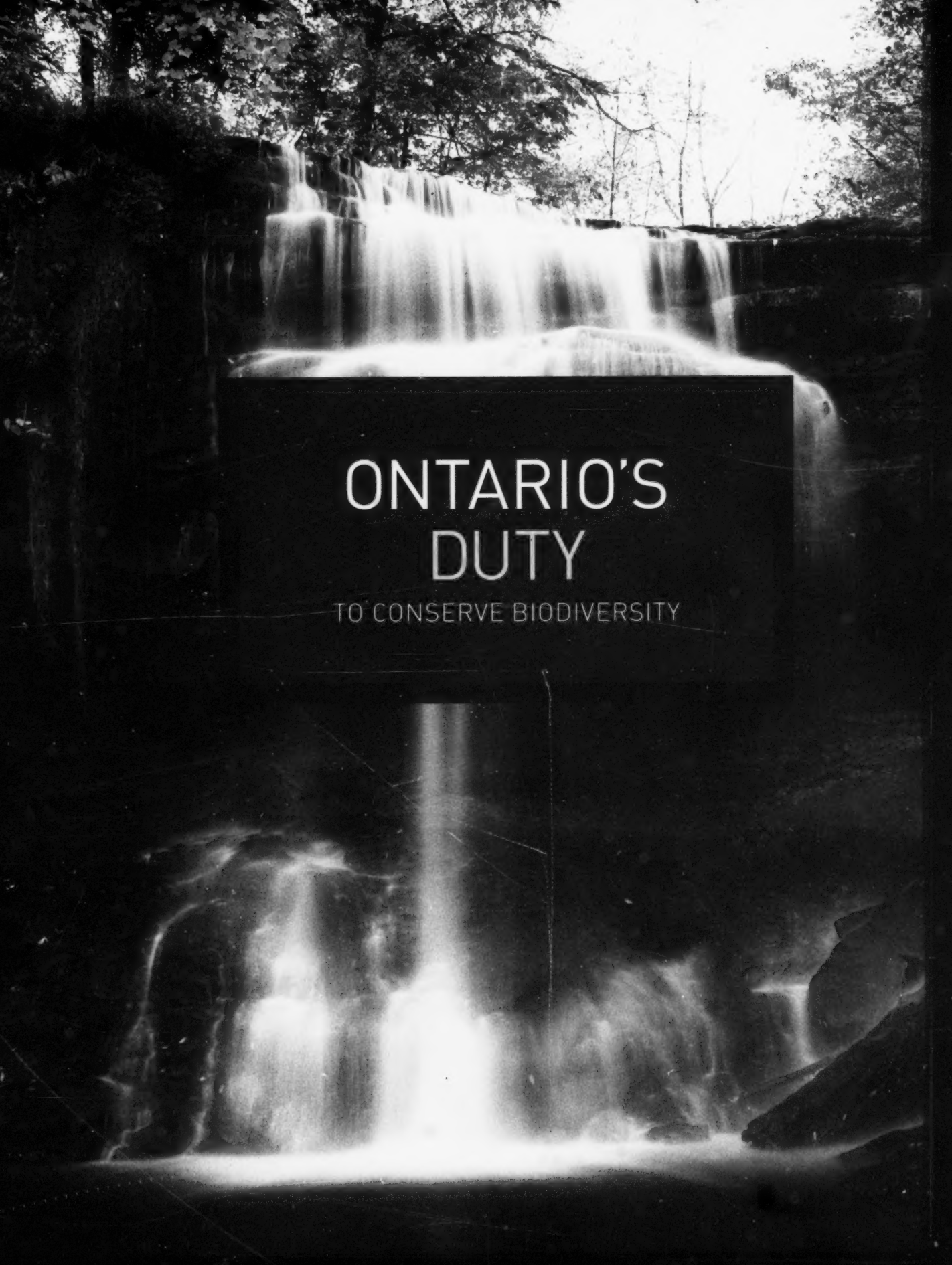


ONTARIO'S DUTY

TO CONSERVE BIODIVERSITY

Biological diversity, or biodiversity, can be understood as the **variety of life** on Earth. It is the variability of native species and the wealth of ecological systems that form the layer of life around our planet. Ontario's biodiversity is **inextricably linked** with the quality of the air we breathe, the water we drink, the soils we depend upon for our food and the lands and waters upon which we depend for our natural resources and livelihoods. There is **scientific consensus** that the world's species, and the ecosystems on which they depend, are being threatened at a global scale.[1]

The loss of biodiversity directly affects Ontario. Similar to the rest of the world, the most significant threats to biodiversity in our province are habitat degradation, climate change, invasive species, overexploitation and pollution.[2] The State of Ontario's Biodiversity 2010 concluded that our provincial government's efforts to conserve biodiversity have increased over the last decade, but they have been insufficient to prevent its continued loss.[3]

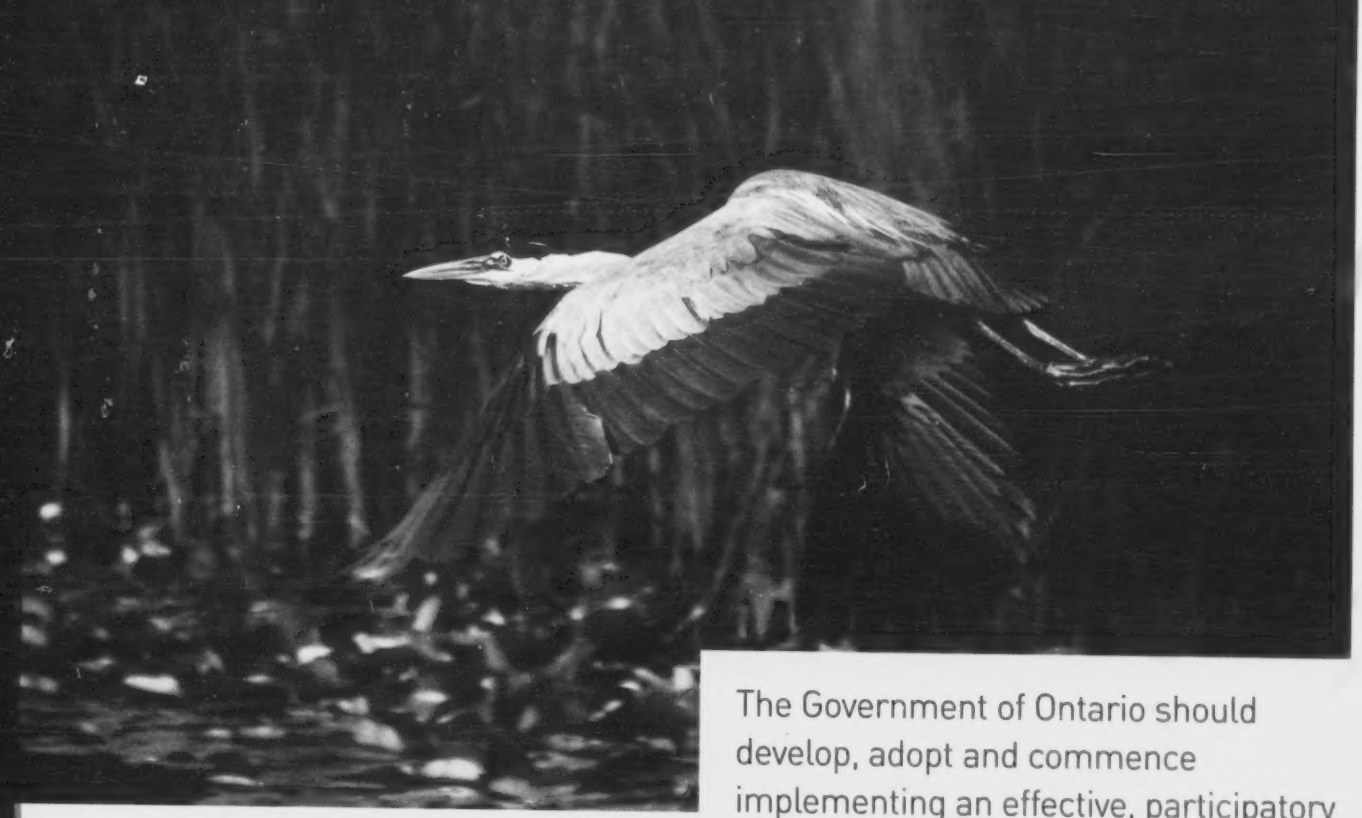
In 1992, the Convention on Biological Diversity was introduced at the Rio Earth Summit as an international agreement to conserve biodiversity and commit to its sustainable use. A year later, the Government of Canada became the first industrialized country to become a signatory to the Convention.

In 1995, the Government of Ontario affirmed its commitment to biodiversity conservation along with all other provinces and territories.[4] By virtue of our Canadian Constitution, the Government of Ontario has a direct obligation to fulfill Canada's responsibilities under the Convention on Biological Diversity. Our system of government in Canada has given the provinces and territories almost all the responsibilities for managing and regulating our country's biodiversity.[5]

In 2010, almost every country on the planet met in Nagoya, Japan to set a path forward.[6] As a result, the international community agreed to 20 biodiversity conservation targets that are to be achieved by 2020 (the "Aichi Targets," see Appendix 1). Canada's obligations

TABLE 1: **Provincial, Federal, and International Biodiversity Policy Timeline**

INTERNATIONAL AND FEDERAL		ONTARIO
	1991	Report to the Minister of Natural Resources by the Wild Life Working Group recommending a biodiversity strategy for Ontario
Rio Earth Summit: the Convention for Biological Diversity (CBD) is established	**1992**	
The Government of Canada becomes a signatory to the CBD	**1993**	
The Government of Canada releases a federal biodiversity strategy, calling on all provinces and territories to develop their own strategies	**1995**	The Government of Ontario publicly commits to the conservation and sustainable use of biodiversity, but takes no specific action
Global Biodiversity Outlook is released; first summary of the global status of biological diversity	**2001**	
Countries pledge to achieve a significant reduction in the rate of biodiversity loss by 2010	**2002**	The Environmental Commissioner of Ontario (ECO) recommends that the Ministry of Natural Resources (MNR) develop a biodiversity strategy for the province
	2003	The ECO encourages MNR to develop targeted strategies for protected areas, natural heritage features, invasive species and species at risk
Millennium Ecosystem Assessment report is released	**2005**	MNR releases Protecting What Sustains Us: Ontario's Biodiversity Strategy to guide actions over the next five years
Global Biodiversity Outlook 2 is released; assesses the status, trends and the key drivers of biodiversity loss	**2006**	
	2008	The ECO recommends that all prescribed ministries develop detailed action plans that specify the measures that they will undertake to conserve biodiversity
The Government of Canada reports that progress across the country is mixed, renewed effort is needed	**2009**	The ECO recommends that the Government of Ontario establish a statutory responsibility for monitoring and reporting on the state of the province's biodiversity
Global Outlook 3 is released; 2010 targets not met in full, renewed effort is needed	**2010**	Ontario's Biodiversity Strategy expires
Countries meet in Nagoya, Japan: 20 biodiversity targets are set for the year 2020 ("Aichi Targets"); subnational governments encouraged to act		The ECO recommends that MNR lead the development of a new and reconceived biodiversity strategy for the Government of Ontario
	2011	The Ontario Biodiversity Council develops a new biodiversity strategy without formal government involvement; MNR states that it is not directly responsible for the contents of the strategy
Global Outlook 4 planned for release	**2015**	
Date for Aichi Targets to be met	**2020**	



The Government of Ontario should develop, adopt and commence implementing an effective, participatory and updated biodiversity strategy and action plan. ADAPTED FROM AICHI TARGET 17

under the Convention on Biological Diversity fall squarely on the shoulders of the provinces and territories. Efforts to halt the loss of biodiversity must be implemented at the provincial level.

The purpose of this Special Report is to highlight the nature of the Government of Ontario's obligations with regard to the Aichi Targets. Specifically, the intent of this Special Report is to begin a dialogue on how the Aichi Targets can be tailored for use by Ontario's provincial ministries.

In 2015, countries around the world will take stock of our progress to meet the 20 Aichi Targets. It is imperative that Ontario not be out of step with efforts across the country and around the globe. For example, New Brunswick[7] has a biodiversity strategy developed by its provincial government to co-ordinate action among its own ministries.

The Government of Ontario must recognize the challenges before us, act in the public interest and move forward, given the pervasive impact of biodiversity loss on almost every sector of our society. Our government must make difficult, but reasonable, choices about how it will prioritize biodiversity conservation efforts. Ontario cannot deny the obligations before it.

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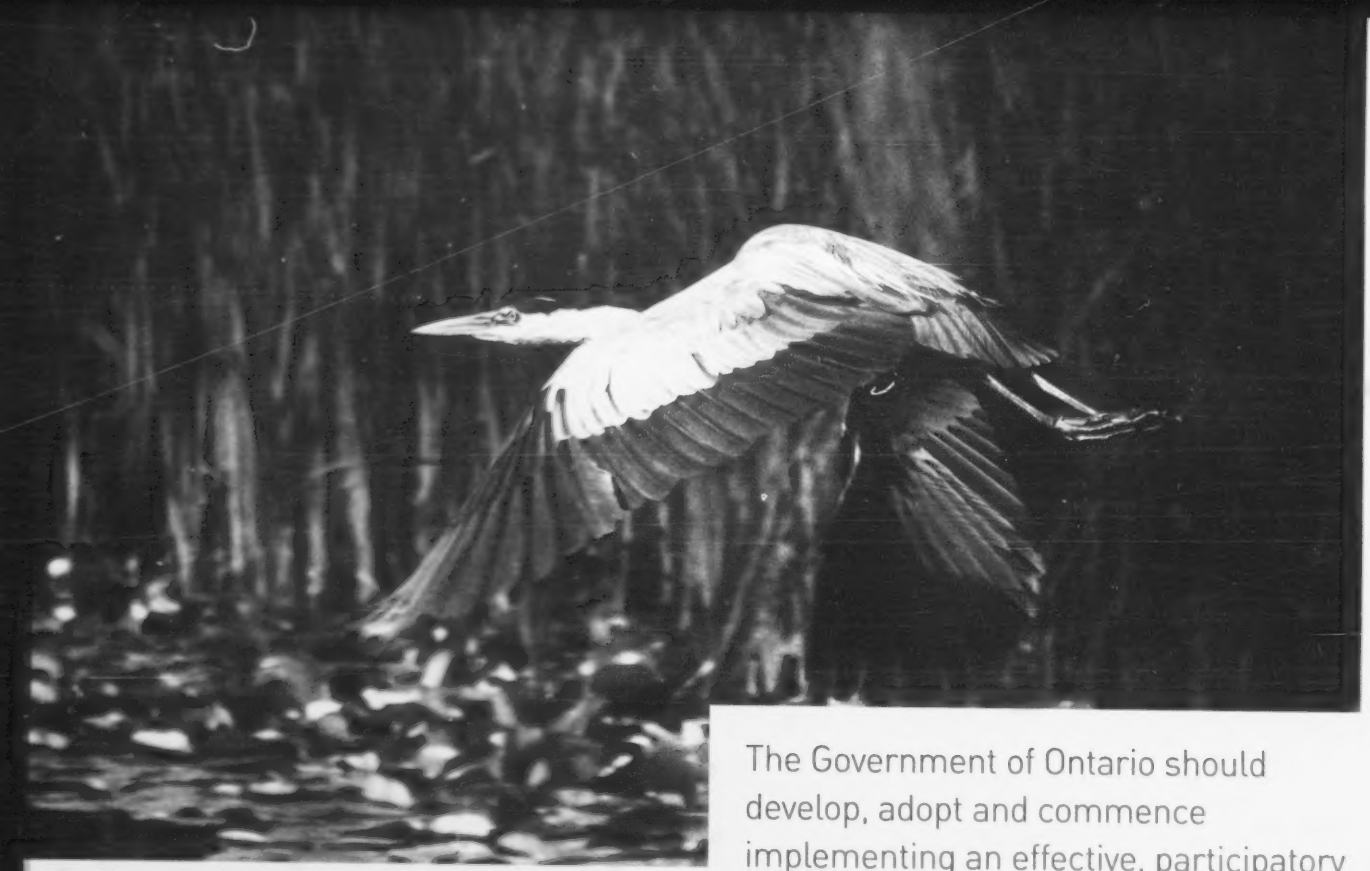

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The Government of Ontario must recognize the challenges before us, act in the public interest and move forward, given the pervasive impact of biodiversity loss on almost every sector of our society. Our government must make difficult, but reasonable, choices about how it will prioritize biodiversity conservation efforts. Ontario cannot deny the obligations before it.

Where We Stand in 2012

For the past decade, the Environmental Commissioner of Ontario (ECO) has identified in numerous reports to the Legislative Assembly of Ontario that conserving biodiversity is a provincial interest and a government-wide responsibility (see Appendices 2 and 3).[8] In 2010, the ECO recommended to the Ontario legislature that the Ministry of Natural Resources lead the development of a new and reconceived biodiversity strategy for the Government of Ontario (see Table 1).[9]

The Government of Ontario had a five-year plan, Ontario's Biodiversity Strategy, which expired in 2010.[10] A renewed biodiversity strategy was developed by the Ontario Biodiversity Council, a third-party collection of stakeholders, in 2011 to fill the policy void left by government. However, the Government of Ontario has distanced itself from this strategy by choosing not to have decision-making authority for its development or contents.[11]

Although the Ministry of Natural Resources has suggested that it will respond to this renewed strategy, no plan of action now exists to articulate the government's commitment to conserving biodiversity. Simply reacting to this well-intentioned effort by stakeholders would be grossly insufficient and not an appropriate course of action by the Government of Ontario.

The Government of Ontario must take ownership, have a strategic plan to address the Aichi Targets, and act. Rhetoric will not suffice.

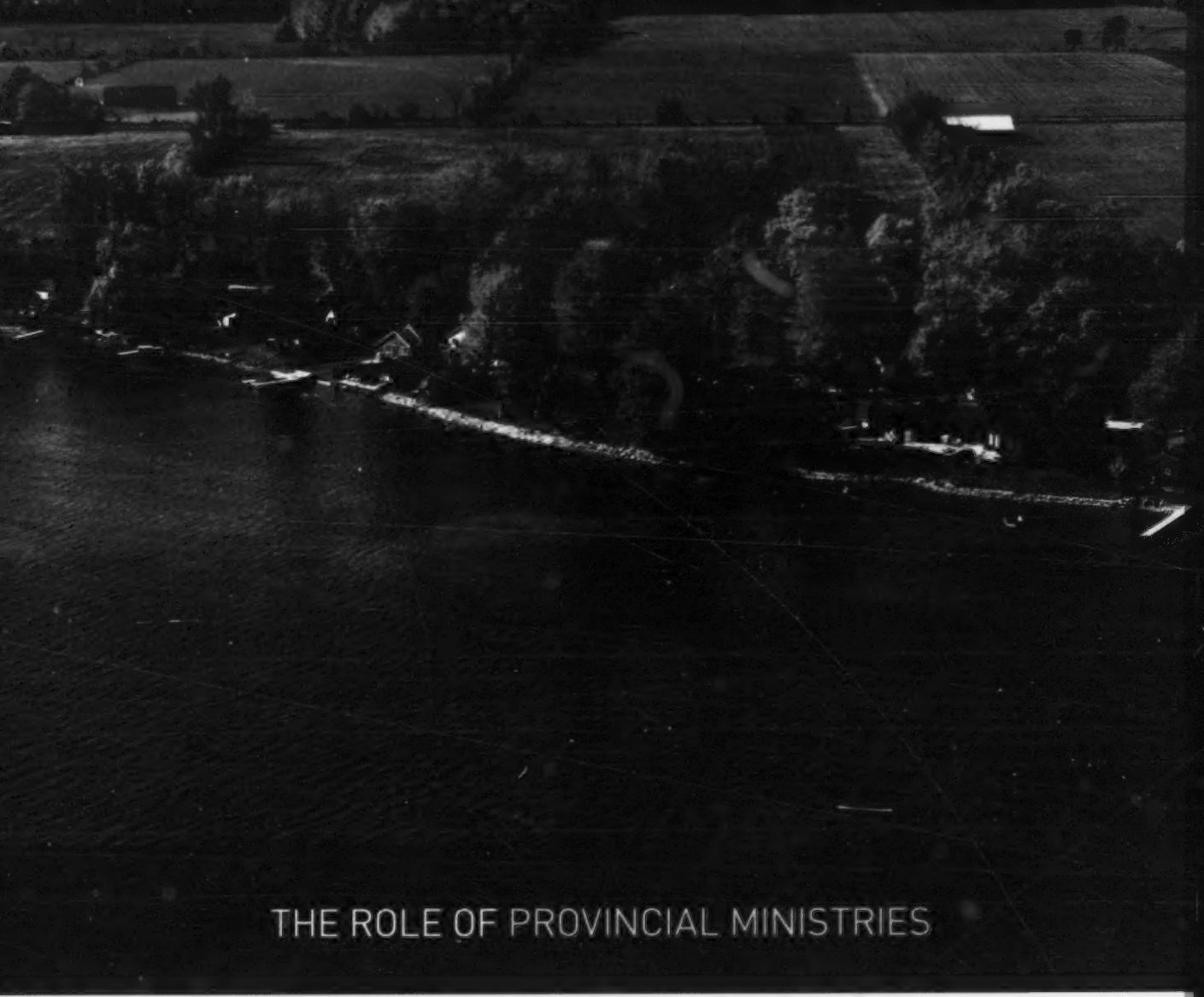
ONTARIO'S BIODIVERSITY AND THE *ENVIRONMENTAL BILL OF RIGHTS, 1993*

Ontario has a powerful tool at its disposal to mainstream the conservation of biodiversity. Nearly two decades ago, the Government of Ontario had the foresight to pass one of the most innovative laws on the planet, which couples environmental protection with public participation in decision making. **The** *Environmental Bill of Rights, 1993* establishes that the people of Ontario have a common goal in the protection, conservation and restoration of the natural environment for the benefit of present and future generations.[12] Moreover, one of its explicit purposes is to enable the protection and conservation of Ontario's biological, ecological and genetic diversity.

The global community has recognized that biodiversity values should be reflected in decision making and that the public should have a meaningful way to participate.[13] Governments around the world are now searching for such a mechanism, one that Ontario has the good fortune to already have. The *Environmental Bill of Rights, 1993* embraces these values and provides the Government of Ontario with a mechanism to engage the public in the shared responsibility of conserving our province's biodiversity.

There are 13 prescribed government ministries that have the opportunity to take full advantage of the *Environmental Bill of Rights, 1993*.[14] Some of these ministries have more obvious responsibilities for conserving biodiversity in the province, such as the Ministry of Natural Resources. Other ministries have a more subtle role to play in tying together the broader responsibilities of the Government of Ontario to conserve biodiversity.

Together, the sum of effort by these ministries can be greater than individual actions alone. Developing a strategic plan would openly signal the Ontario government's commitment to conserving biodiversity, while also setting out a big-picture vision for what needs to be achieved by the end of this decade.



THE ROLE OF PROVINCIAL MINISTRIES

The Government of Ontario needs an integrated strategic plan that can co-ordinate the actions of all relevant ministries, while working towards the long-term goal of successfully conserving biodiversity in our province.[15] A united approach across government is not only good for biodiversity; it is also an efficient and effective use of government resources.[16] By working together, government policies and programs can be complementary rather than duplicative or counter-productive.

Ministries are seemingly unaware of the obligations they have under the Convention for Biological Diversity. Responsibility for Ontario's biodiversity has largely been relegated to the Ministry of Natural Resources. The ignorance of the issue, and who is responsible, is the most significant barrier to effective policy for biodiversity conservation in Ontario today.

Ministry of Natural Resources | MNR

MNR has the opportunity to be the focal point for the Government of Ontario to lead action for the conservation of the province's biodiversity. The ministry can play a key organizing role across government, uniting disparate program areas of other ministries. According to MNR, its current mandate is to "provide provincial leadership and oversight in the conservation of Ontario's biodiversity."[17]

The ministry acts as the steward of all Crown land in Ontario, which makes up 87 per cent of the province; further, it co-ordinates the protection of natural heritage in southern Ontario on both public and private lands.[18] MNR is also responsible for managing Ontario's system of protected areas, including working with First Nations to protect more than half of the Far North, in addition to overseeing the sustainability of Crown forests across the province.

MNR is responsible for the management of the province's fish and wildlife, including scientific research, monitoring and assessment. For example, the ministry coordinates action across government for the protection and recovery of species at risk. MNR has also recently assumed the lead role in an inter-ministerial effort to combat invasive alien species, which are a significant threat to many native plants and animals.[19]

MNR should ensure that:

- ***at least 17 per cent of terrestrial areas and inland waters are conserved through ecologically representative and well-connected systems of protected areas integrated into the wider landscape.*** ADAPTED FROM AICHI TARGET 11

- ***the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.***
  ADAPTED FROM AICHI TARGET 5

- ***the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.***
  ADAPTED FROM AICHI TARGET 12

- ***invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.***
  ADAPTED FROM AICHI TARGET 9

MNR works with Ontario's 36 conservation authorities, which are often on the frontlines of conserving our province's biodiversity. For example, in 2010, conservation authorities planted 2.9 million trees and provided landowners with $1.4 million in grants to carry out 478 habitat rehabilitation and restoration projects.[20] MNR could increase its support to conservation authorities, expanding their valuable on-the-ground local work.

Given all these critical responsibilities, MNR is the natural choice to lead a strategic plan of action for biodiversity conservation in Ontario and has a clear mandate to do so. The opportunity lies with the Government of Ontario to empower MNR to carry out this responsibility.

Ministry of the Environment | MOE

MOE has many responsibilities that have a direct bearing on addressing threats to biodiversity in Ontario. The ministry seeks to achieve "results in combating climate change, reducing toxics, and protecting water and natural areas while also supporting innovation and helping to grow a sustainable economy."[21] Although many of its responsibilities may not have been designed with biodiversity conservation as a top-of-mind element, MOE can make an indispensable contribution as part of an overall approach by the Government of Ontario.

MOE should ensure that:

- ***the contribution of biodiversity to carbon stocks is enhanced, contributing to climate change mitigation and adaptation.***
  ADAPTED FROM AICHI TARGET 15

- ***ecosystems that provide essential services, including services related to water, and that contribute to health, livelihoods and well-being, are restored and safeguarded.***
  ADAPTED FROM AICHI TARGET 14

- ***pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.***
  ADAPTED FROM AICHI TARGET 8

Biodiversity loss and climate change are the most pressing global environmental crises of our time. When possible, government actions on one should be deliberately complementary to actions taken on the other. MOE has assumed leadership within government for addressing climate change through its Climate Ready: Ontario's Adaptation Strategy and Action Plan (2011-2014); it could be a key plank in a strategic plan of action for biodiversity if resolutely implemented.[22]

MOE is the lead provincial ministry in implementing the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem.[23] The 2007 agreement states that Canada and Ontario will complete and implement binational biodiversity conservation plans for the Great Lakes.[24] Some of these biodiversity conservation plans have been created; implementation led by MOE could make a key contribution to conserving the biodiversity of the Great Lakes.

Regulating pollution is essential to reducing biodiversity loss. MOE has many tools at its disposal to address this threat. For example, one year after Ontario's ban on most cosmetic pesticides, the ministry reported up to a 97 per cent reduction of some chemicals toxic to aquatic invertebrates and fishes, in sampled streams.[25] Such successes should be built upon.

Ministry of Municipal Affairs and Housing | MMAH

MMAH is the lead provincial ministry for land use planning on private lands in Ontario. The ministry is in the unique position to take a big picture approach, particularly for southern Ontario, laying out the landscape for decades to come. Additionally, as the province's one-window approval authority for planning, MMAH has the opportunity to ensure that planning applications and municipal policies consider biodiversity at the community level.

MMAH should:

- ***integrate biodiversity values into planning processes.*** ADAPTED FROM AICHI TARGET 2
- ***eliminate or phase out any incentives harmful to biodiversity in order to minimize or avoid negative impacts, and develop positive incentives for the conservation and sustainable use of biodiversity by municipalities.*** ADAPTED FROM AICHI TARGET 3

Land use planning decisions significantly affect biodiversity. MMAH's Provincial Policy Statement, 2005 (PPS) is a set of policies that provide direction on matters of provincial interest related to land use planning and development. Conserving natural heritage is currently a matter of provincial interest,[26] but is often at odds with other provincial priorities.[27]

MMAH has the opportunity to strengthen land use planning policies to protect biodiversity in its current review of the PPS, as well as during its upcoming 2015 review of the Niagara Escarpment Plan, Greenbelt Plan and Oak Ridges Moraine Conservation Plan. For example, MMAH can explore potential amendments to the PPS that would require all municipalities to identify natural heritage systems and protect them in their official plans, ideally guided by an overarching natural heritage system for southern Ontario.[28] The ministry also has the ability to tangibly support actions taken by municipalities, such as the innovation shown by the City of Greater Sudbury in developing its own localized biodiversity strategy.[29]

Ministry of Energy | ENG

Long-term planning by ENG for energy conservation and more renewable energy will contribute to achieving the government's greenhouse gas emissions reduction targets—ultimately benefitting Ontario's biodiversity.[30] However, energy infrastructure, including for renewables, can shape the landscape and the habitat on which species depend.[31] By promoting energy conservation, less energy supply infrastructure will need to be built, thereby avoiding impacts on biodiversity. Additionally, Crown corporations overseen by the ministry, such as Ontario Power Generation[32] and Hydro One,[33] could expand on current efforts to partner with other organizations in biodiversity conservation and stewardship projects.

ENG should:

- ***integrate biodiversity values into energy planning processes.*** ADAPTED FROM AICHI TARGET 2
- ***ensure that provincial energy consumption and its impacts are well within safe ecological limits.*** ADAPTED FROM AICHI TARGET 4

Ministry of Transportation | MTO

MTO has an instrumental role in restoring ecosystem connectivity and addressing habitat fragmentation in Ontario, a key driver of biodiversity loss. For example, 1 in 17 motor vehicle collisions in our province involve a wild animal, not to mention the countless small species which are crushed by traffic.[34] A key component of MTO's mandate is to "integrate the principle of sustainability into the ministry's decision making, programs, policies and operations by implementing the ministry's sustainability strategy and continuing to build awareness."[35]

MTO should:

- ***incorporate biodiversity values in its transportation planning processes to maintain well-connected ecosystems on the wider landscape.***
  ADAPTED FROM AICHI TARGETS 2 AND 11

The ministry has a number of pilot projects to prevent wildlife collisions, such as the construction of wildlife over-crossings and wildlife detection systems to alert drivers to the presence of large animals. An additional opportunity for MTO lies in retrofitting bridge and road culverts to explicitly improve habitat connectivity and promote aquatic biodiversity.[36]

A significant MTO initiative that could be expanded is the Greening the Right of Way program, which resulted in the planting of 290,000 trees in southern Ontario on land within and adjacent to the highways in 2010 and 2011. MTO has many untapped opportunities to consider biodiversity in maintaining and planning Ontario's transportation network.

Ministry of Tourism and Culture | MTC

MTC has an array of opportunities to engage in conserving Ontario's biodiversity, particularly through the many agencies, boards and commissions that it oversees. For example, the Ontario Trillium Foundation provides environmental grants at the community and province-wide levels. It also has a Future Fund that targeted leadership in the environment sector and building skills for the green economy.[37] Additionally, the ministry oversees the Ontario Heritage Trust, which has an essential role to play through its Natural Spaces Land Acquisition and Stewardship Program.[38]

MTC should:

- ***integrate biodiversity values into its planning, grant-making and reporting systems.***
  ADAPTED FROM AICHI TARGET 2

Other MTC agencies and commissions also make important contributions to environmental education, including the Royal Botanical Gardens, Royal Ontario Museum, Science North, Ontario Science Centre, the Niagara Parks Commission and the St. Lawrence Parks Commission. MTC can help its agencies further engage in conservation and education, such as through renewed leadership and funding, to align with a provincial interest in maintaining Ontario's biodiversity.

Ministry of Agriculture, Food and Rural Affairs | OMAFRA

OMAFRA's three strategic priorities are: thriving agriculture and food sectors; strong rural communities; and safe food, healthy animals and healthy environment.[39] For example, the ministry's Environmental Farm Plan program provides subsidies for eligible projects that could enhance biodiversity conservation on many of Ontario's roughly 57,000 farm operations.[40] OMAFRA also can provide further incentives for ecological goods and services on farmlands, by expanding its alternative land use services pilot project.

OMAFRA should ensure that:

- ***agricultural areas are managed sustainably to conserve biodiversity.*** ADAPTED FROM AICHI TARGET 7
- ***the genetic diversity of cultivated plants and farmed and domesticated animals is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.*** ADAPTED FROM AICHI TARGET 13

The ministry has many other such tools at its disposal that have a direct impact on biodiversity, such as controlling pollutants through nutrient management and enhancing wetlands through municipal drainage works.[41] In partnership with MOE and MNR, the ministry can make important contributions to conserving Ontario's biodiversity through the actions it takes under the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem. Further, a key responsibility for OMAFRA to consider is the stewardship of the genetic diversity of agricultural crops and livestock.

Ministry of Education | EDU

As the administrator of publicly funded elementary and secondary education in Ontario, EDU can affect biodiversity conservation in several ways. The ministry is responsible for developing and implementing curricula for the majority of Ontario's students. Including biodiversity lessons and outdoor education in curricula can instil students with knowledge and appreciation for the natural world that can direct behaviours and career paths towards environmental sustainability.

EDU should ensure that:

- ***all Ontario students are aware of the values of biodiversity and the steps they can take to conserve it and use it sustainably.*** ADAPTED FROM AICHI TARGET 1

The government has provided funding for increasing renewable energy generation, energy efficiency and the use of innovative technologies in Ontario's schools. The ministry could build on this work by developing policies that encourage schools to enhance habitat for biodiversity and reduce environmental impacts, such as through green roofs and other building-integrated vegetation.

Ministry of Infrastructure | MOI

It is critical that MOI consider biodiversity in its operations, as it manages infrastructure planning and priority setting for the entire Government of Ontario.[42] Rather than planning for big pipes and concrete infrastructure, MOI has the opportunity to complement current approaches with "green" infrastructure. The ecological services provided by natural features, such as urban forests and wetlands, can be harnessed at varying scales to meet many needs, such as stormwater management, while also supporting biodiversity.

MOI should:

- ***develop and apply positive incentives for the conservation and sustainable use of biodiversity through the use of green infrastructure.***

ADAPTED FROM AICHI TARGET 3

Ministry of Northern Development and Mines | MNDM

MNDM is responsible for the provincial mineral sector, including environmentally sound mineral development practices and the rehabilitation of mining lands.[43] It also has a lead role with MOI in guiding local decision making in much of the province through the Growth Plan for Northern Ontario. As MNDM moves forward in its oversight of mining in the Far North, particularly in the area known as the Ring of Fire, the ministry should work collaboratively with MNR to ensure that biodiversity protection is a priority in determining where development is appropriate.

MNDM should ensure that:

- ***the impacts of development and mining are well within safe ecological limits.***

ADAPTED FROM AICHI TARGET 4

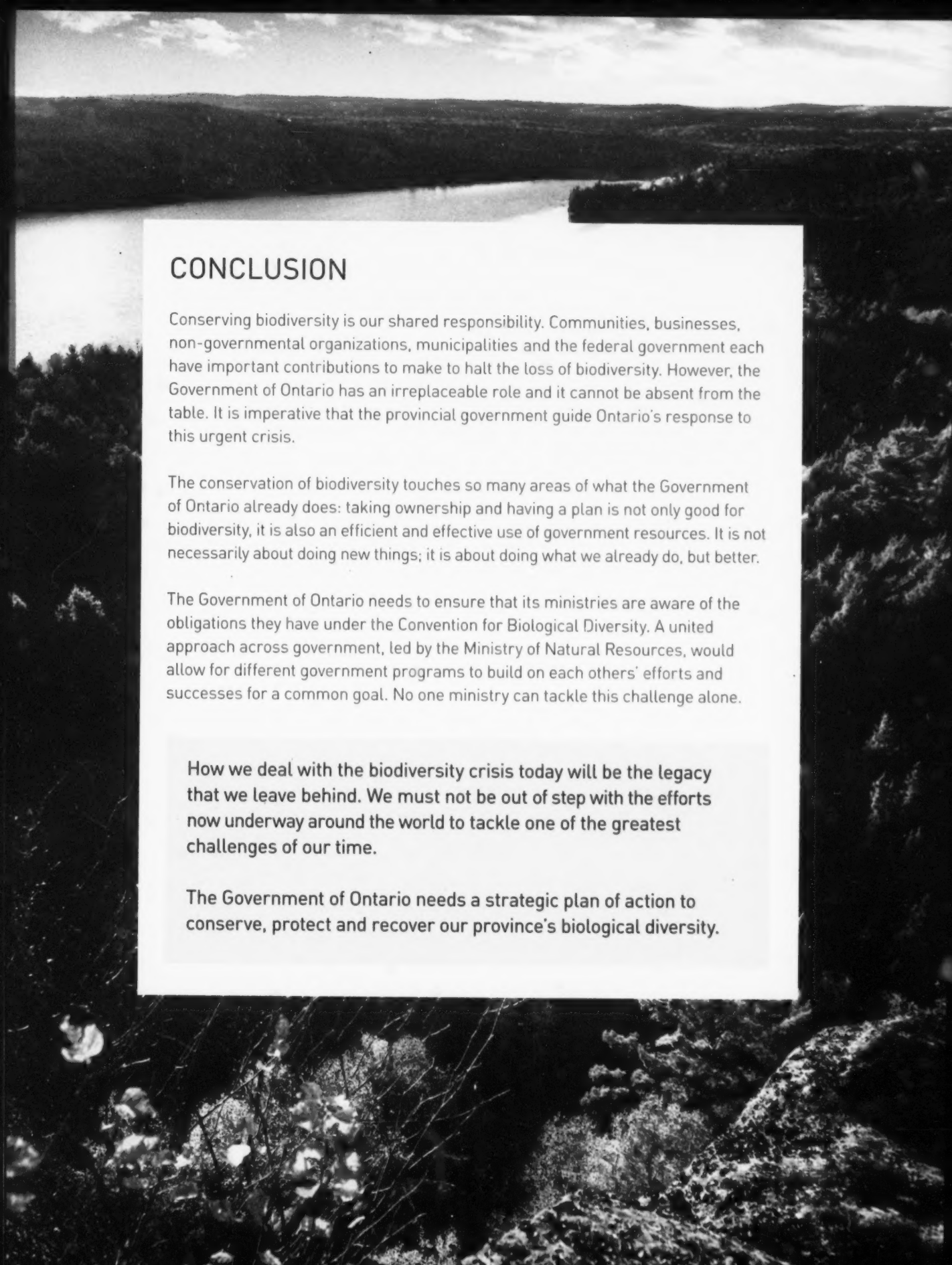
Ministry of Aboriginal Affairs | MAA

MAA has a mandate to promote collaboration and co-ordination across ministries on Aboriginal policy and programs.[44] Its role is to work collaboratively with other ministries on key policy initiatives, such as green energy, mining and forestry policies, and Far North planning. The ministry should take advantage of this unique mandate to promote Aboriginal traditional knowledge of biodiversity, relevant for conservation, across sectors.

MAA should ensure that:

- ***the traditional knowledge, innovations and practices of indigenous communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, and fully integrated in a strategic plan for biodiversity, with the full and effective participation of aboriginal communities.***

ADAPTED FROM AICHI TARGET 18



CONCLUSION

Conserving biodiversity is our shared responsibility. Communities, businesses, non-governmental organizations, municipalities and the federal government each have important contributions to make to halt the loss of biodiversity. However, the Government of Ontario has an irreplaceable role and it cannot be absent from the table. It is imperative that the provincial government guide Ontario's response to this urgent crisis.

The conservation of biodiversity touches so many areas of what the Government of Ontario already does: taking ownership and having a plan is not only good for biodiversity, it is also an efficient and effective use of government resources. It is not necessarily about doing new things; it is about doing what we already do, but better.

The Government of Ontario needs to ensure that its ministries are aware of the obligations they have under the Convention for Biological Diversity. A united approach across government, led by the Ministry of Natural Resources, would allow for different government programs to build on each others' efforts and successes for a common goal. No one ministry can tackle this challenge alone.

How we deal with the biodiversity crisis today will be the legacy that we leave behind. We must not be out of step with the efforts now underway around the world to tackle one of the greatest challenges of our time.

The Government of Ontario needs a strategic plan of action to conserve, protect and recover our province's biological diversity.

Appendix 1

Strategic Goals and the Aichi Biodiversity Targets[45]

The Convention on Biological Diversity was opened for signature on June 5th, 1992 at the United Nations Conference on Environment and Development (also known as the Rio Earth Summit). There are currently 193 countries that are signatories to the convention, including the Government of Canada.[46] Its objectives are "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding."[47]

In October 2010, signatories to the Convention met in Nagoya, Japan. The signatories, including the Government of Canada, have agreed to pursue the following goals and targets:

STRATEGIC GOAL A Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	
TARGET 1	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
TARGET 2	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
TARGET 3	By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.
TARGET 4	By 2020, at the latest, governments, business and stakeholders at all levels have taken steps to acheive or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

STRATEGIC GOAL B
Reduce the direct pressures on biodiversity and promote sustainable use

TARGET 5	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
TARGET 6	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
TARGET 7	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
TARGET 8	By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
TARGET 9	By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
TARGET 10	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and function.

STRATEGIC GOAL C
Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

TARGET 11	By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.
TARGET 12	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
TARGET 13	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

STRATEGIC GOAL D
Enhance the benefits to all from biodiversity and ecosystem services

TARGET 14 By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

TARGET 15 By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

TARGET 16 By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

STRATEGIC GOAL E
Enhance implementation through participatory planning, knowledge management and capacity-building

TARGET 17 By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

TARGET 18 By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

TARGET 19 By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

TARGET 20 By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Appendix 2

The Environmental Commissioner of Ontario's Reporting on Biodiversity

A decade ago, the Environmental Commissioner of Ontario (ECO) began a concerted effort to highlight the conservation of biodiversity as a key issue in Ontario environmental policy. The ECO firmly believes that the conservation of biodiversity is one of the most pressing issues of our time and the Government of Ontario has a responsibility to take action.

2001/2002 ECO Annual Report	The ECO recommended that the Ministry of Natural Resources (MNR) develop a provincial biodiversity strategy in consultation with affected ministries, municipalities and stakeholders. Moreover, the ECO made the case that MNR should undertake a comprehensive assessment of Ontario's current policies, regulations and acts and enact appropriate changes to conserve the province's biodiversity. MNR responded that the ministry was not obligated to create a provincial biodiversity strategy, nor did it intend to.
2002/2003 ECO Annual Report	Building on the call for a provincial biodiversity strategy from the previous Annual Report, the ECO encouraged MNR to develop a series of integrated, province-wide strategies to address key biodiversity issues. These strategies should target specific areas in which action is required to conserve biodiversity, such as conserving protected areas and natural heritage features and functions, protecting species at risk, and addressing the threat of invasive species; this approach also allows for an efficient use of government resources. Again, MNR chose not to take action.
2004/2005 ECO Annual Report	MNR finally committed to developing a biodiversity strategy in 2004, releasing it a year later. This Annual Report previewed the strategy. The ECO provided a strong caution that a successful biodiversity strategy should clearly detail the responsibilities of all relevant ministries, describe decisive actions, contain quantifiable targets, and specify timelines for delivery. The ECO also suggested that a successful strategy should target program areas, policies and legislation that need revision to achieve its goals.
2005/2006 ECO Annual Report	This Annual Report provided a detailed review of Ontario's Biodiversity Strategy, released in 2005. The ECO commended MNR for finally acknowledging that conserving Ontario's biodiversity is one of its responsibilities. However, the ECO warned that a successful biodiversity strategy should not attempt to be all things to all people: its focus should be, first and foremost, the conservation of biodiversity. The ECO also commented that the Ontario government must ensure that this new agenda delivers concrete actions that tangibly conserve the province's biodiversity. Relegating this strategy to simple rhetoric would be a tragic loss.

2008/2009
ECO Annual Report

This Annual Report stressed that greater efforts were needed to conserve Ontario's biodiversity. The ECO commented that there had been a distinct lack of new initiatives, beyond those that were announced in 2005 or earlier. In part, the ECO believed this inaction was attributable to insufficient allocation of funding and human resources; many of the small steps that the government had undertaken involved offloading responsibilities to third parties, such as non-governmental organizations or volunteer committees. In sum, the ECO was profoundly concerned about the lack of deliberate, systematic and coordinated government action to conserve Ontario's biological diversity.

2009
ECO Special Report

In March 2009, the ECO released a Special Report to the Ontario legislature titled *The Last Line of Defence: A Review of Ontario's New Protections for Species at Risk*. This Special Report made a series of recommendations to the Government of Ontario to strengthen its legal, policy and program framework for the protection and recovery of the province's species at risk. The first recommendation in this Special Report was for the Government of Ontario to establish a statutory responsibility for monitoring and reporting on the state of the province's biodiversity.

2009/2010
ECO Annual Report

This Annual Report illustrated the links between climate change and biodiversity loss, warning that Ontario's ecology will be radically reshaped by the end of the 21st century. It also highlighted that Ontario's Biodiversity Strategy from 2005, itself a five-year plan, had expired and there was no commitment by the Ontario government to address this globally significant issue in the years ahead. The ECO formally recommended that the Ministry of Natural Resources lead the development of a new and reconceived biodiversity strategy for Ontario. Without question, a biodiversity strategy should specify program areas, policies, and legislation that need revision across all of government to achieve its goals. This Annual Report observed that conserving biodiversity is indeed all of our responsibility, but the Ontario government itself must articulate how it will systematically respond to biodiversity loss in the province.

Appendix 3

Selected Recommendations of the Environmental Commissioner of Ontario Relevant to Biodiversity Protection

In every Annual Report, the Environmental Commissioner of Ontario (ECO) makes several recommendations to ministries based on that year's content. Government ministries have taken action on some of the following ECO recommendations. For more information, please see the ECO's annual and special reports, available at ***www.eco.on.ca*** or ***www.ecoissues.ca***.

GOVERNMENT RESPONSIBILITY & FUNDING

2009/2010 ECO Annual Report	The ECO recommends that the Ministry of Natural Resources (MNR) lead the development of a new and reconceived biodiversity strategy for the Ontario government.
2007/2008 ECO Annual Report	The ECO recommends that all prescribed ministries develop detailed action plans that specify the measures to conserve biodiversity that they will undertake.
2007 ECO Special Report	In consultation with the ministries and the public, the Ontario government should: 1. Undertake a step-wise, strategic rebuilding of capacity at the Ministry of the Environment (MOE) and MNR, to ensure that the ministries can fulfill their mandates. 2. Develop planning, priority-setting and budgeting processes to ensure that MOE and MNR are adequately equipped to: • know the overall state/health of Ontario's natural environment; • know when degradation or impairment of the environment is imminent; • take action to prevent, mitigate or manage existing or imminent substantive degradation or impairment; • set rules and procedures governing human activities that are sufficient to protect the environment; and • know where rules and procedures are not being complied with, and take measures to achieve compliance. 3. Direct MOE and MNR to undertake a third party evaluation of the adequacy and distribution of technical and science expertise within their agencies.
2001/2002 ECO Annual Report	The ECO recommends that MNR develop a provincial biodiversity strategy in consultation with affected ministries, municipalities and stakeholders.

PLANNING FOR BIODIVERSITY	
2010/2011 ECO Annual Report	The ECO recommends that MNR develop a coarse-scale, overarching natural heritage system for southern Ontario.
2009/2010 ECO Annual Report	The ECO recommends that the Ministry of Municipal Affairs and Housing (MMAH) amend the Provincial Policy Statement to require that the long-term ecological function and biodiversity of natural heritage systems are maintained.
2007/2008 ECO Annual Report	The ECO recommends that MNR and the Ministry of Transportation (MTO) collaborate to monitor wildlife crossings on existing roads to determine where mitigation is required and to work together early in the road planning process to identify areas where wildlife passages will be necessary.
2005/2006 ECO Annual Report	The ECO recommends that MNR, MOE, the Ministry of Northern Development and Mines (MNDM), and the Ministry of Energy (MOE) consult the public on an integrated land use planning system for the northern boreal forest, including detailed environmental protection requirements that reflect the area's unique ecology.
2004/2005 ECO Annual Report	The ECO recommends that MNR and MMAH develop a coordinated urban forest strategy to protect urban and heritage trees, working together with municipalities, ENGOs and local agencies.
2003/2004 ECO Annual Report	The ECO recommends that MNR develop policies, plans and targets for conserving old growth forests in southern Ontario.
2000/2001 ECO Annual Report	The ECO recommends that the ministries assist municipalities to ensure that ecosystem fragmentation is adequately considered in land use planning decisions and that provincial interests in protecting natural heritage and functioning forest ecosystems are safeguarded.
2000/2001 ECO Annual Report	The ECO recommends that MNR, MMAH and MOE research the scope of ecosystem fragmentation in Ontario and evaluate and select management options to slow down or even reverse the trend.
2000/2001 ECO Annual Report	The ECO recommends that MOE and MNR ensure that provincial decision-makers have information on the health of ecosystems which is current and of a sufficient quality to permit the development of scientifically defensible rationales for habitat protection activities and to allow the identification of emerging ecological problems.

PROTECTING ECOSYSTEMS & SPECIES DIVERSITY	
2010/2011 ECO Annual Report	The ECO recommends that MNR ensure that government response statements clearly articulate the actions that the Ontario government will and will not take to protect and recover species at risk.
2010/2011 ECO Annual Report	The ECO recommends that the government ban the hunting and trapping, except by First Nations and Aboriginal peoples, of species at risk in all protected areas.
2009/2010 ECO Annual Report	The ECO recommends that MNR complete the necessary policy framework to support the *Endangered Species Act, 2007*, with the required public consultation.
2009/2010 ECO Annual Report	The ECO recommends that MNR ensure that caribou habitat be a prime consideration in how and where it plans to protect 50 per cent of lands in the Far North.
2009 ECO Special Report	The ECO recommends that the Government of Ontario establish a statutory responsibility for monitoring and reporting on the state of the province's biodiversity.
2008/2009 ECO Annual Report	The ECO recommends that MNR develop and lead a co-ordinated interministerial plan to protect and conserve amphibian populations, reflecting the full range of threats and challenges.
2008/2009 ECO Annual Report	The ECO recommends that MNR ensure that the first priority of the *Provincial Parks and Conservation Reserves Act*—ecological integrity—is also clearly reflected and prioritized in all policies, manuals and guidance documents that influence the planning and management of Ontario's protected areas.
2007/2008 ECO Annual Report	The ECO recommends that MNR ensure that its wildlife management policies and models appropriately reflect the role of mammalian predators in ecosystems.
2002/2003 ECO Annual Report	The ECO recommends that MNR create a new legislative, regulatory and policy framework to better protect Ontario's species at risk and to conform with federal legislation.
2001/2002 ECO Annual Report	The ECO recommends that MNR create a new legislative framework for provincial parks and protected areas, including conservation reserves, with the mandate of conserving biodiversity.

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For links to references, please see the electronic version of this document available at *www.eco.on.ca*.

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[4] Ministry of Supply and Services Canada, *Canada's Biodiversity: A Commitment to its Conservation and Sustainable Use* (Ottawa: Her Majesty the Queen in Right of Canada, 1995).

[5] *Constitution Act, 1987*, Section 92A.

[6] Convention for Biological Diversity, *Conference of Parties 10, Decision X/2, Convention on Biological Diversity, Annex, III, Mission of the Strategic Plan* (Montréal: Secretariat of the Convention for Biological Diversity, 2011).

"The mission of the Strategic Plan is to take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication. To ensure this, pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach."

[7] Government of New Brunswick, *Biodiversity Strategy: Conserving biodiversity and using biological resources in a sustainable manner* (Fredericton, New Brunswick: 2009).

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[9] Environmental Commissioner of Ontario, "Climate Change and Biodiversity Turmoil," Redefining Conservation: Environmental Commissioner of Ontario Annual Report 2009/10 (Toronto, Ontario: 2010), 32-36.

[10] Ministry of Natural Resources, *Protecting What Sustains Us: Ontario's Biodiversity Strategy* (Peterborough, Ontario: Fish and Wildlife Branch, 2005).

[11] Correspondence from the Deputy Minister of the Ministry of Natural Resources to the Environmental Commissioner of Ontario, April 28, 2011.

"Unlike 2004-05, when the Ministry of Natural Resources (MNR) led the OBS (Ontario Biodiversity Strategy) development process, the task of reviewing and renewing the OBS now rests with the independent Ontario Biodiversity Council. MNR does not have any decision-making authority with respect to the Strategy."

[12] *Environmental Bill of Rights, 1993*, S.O. 1993, c.28, Preamble.

[13] Convention for Biological Diversity, *Aichi Target: Targets 1 and 2 - Technical Rationale extended (provided in document COP/10/INF/12/Rev.1)* (Montréal: Secretariat of the Convention for Biological Diversity, 2010).

[14] Ontario Regulation 73/94 (General) establishes which ministries are prescribed under the *Environmental Bill of Rights, 1993 (EBR)*. As of December 2011, prescribed ministries include: Agriculture, Food and Rural Affairs; Consumer Services; Economic Development and Trade; Energy; Environment; Government Services; Health and Long-Term Care; Labour; Municipal Affairs and Housing; Natural Resources; Northern Development and Mines; Tourism and Culture; and Transportation.

It should be noted that in August 2010, the Ministry of Energy and Infrastructure, which was prescribed under the *EBR*, split into two ministries: the Ministry of Energy (ENG) and the Ministry of Infrastructure; a regulation proposal on the Environmental Registry (#011-2697) proposes to prescribe ENG under the *EBR*.

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[17] Ministry of Natural Resources, *Results-based Plan 2011-12* (Toronto: Queen's Printer for Ontario, 2011).

Biodiversity Management
Provide provincial leadership and oversight in the conservation of Ontario's biodiversity. This includes the management of fish and wildlife resources; species at risk; fish culture, stocking and aquaculture; resource monitoring, assessment and allocation; research, fish health and control of pathogens; conservation officer delivery of natural resource and public safety law enforcement; and enhancing fishing and hunting opportunities. This mandate area has significant linkages with all other areas of the ministry.

[18] Ministry of Natural Resources, *Results-based Plan 2011-12* (Toronto: Queen's Printer for Ontario, 2011).

[19] Ministry of Natural Resources, *Draft: Ontario Invasive Species Strategic Plan (OISSP)* (Peterborough, Ontario: 2011).

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[21] Ministry of the Environment, *Results-based Plan 2011-12* (Toronto: Queen's Printer for Ontario, 2011).

[22] Ministry of the Environment, *Climate Ready: Ontario's Adaptation Strategy and Action Plan, 2011-2014* (Toronto: Queen's Printer for Ontario, 2011).

[23] Environment Canada and the Ontario Ministry of the Environment, *Canada-Ontario Agreement Respecting the Great Lakes Basin* (Ottawa: Her Majesty the Queen in Right of Canada, 2007; Toronto: Queen's Printer for Ontario, 2007).

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[25] Todd, Aaron, *Changes in Urban Stream Water Pesticide Concentrations One Year after a Cosmetic Pesticides Ban* (Toronto: Environmental Monitoring and Reporting Branch, Ontario Ministry of the Environment, 2010).

[26] Ministry of Municipal Affairs and Housing, *Provincial Policy Statement*, under the authority of sec. 3 of the *Planning Act* (Toronto: Queen's Printer for Ontario, 2005), Policy 2.1.2.

> "The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features* and *areas*, *surface water features* and *ground water features*."

[27] Environmental Commissioner of Ontario, "Aggregate Use in Road Construction," *Thinking Beyond the Near and Now: Environmental Commissioner of Ontario Annual Report 2002/03* (Toronto, Ontario: 2003), 29-35.

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[30] Environmental Commissioner of Ontario, "Long-Term Energy Plan," *Managing a Complex Energy System: Environmental Commissioner of Ontario Annual Energy Conservation Report 2010* (Volume 1) (Toronto, Ontario: 2011), 12-19.

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[46] Convention for Biological Diversity, *List of Parties* (Montréal: Secretariat of the Convention for Biological Diversity, 2011).

[47] Convention for Biological Diversity, *About the Convention* (Montréal: Secretariat of the Convention for Biological Diversity, 2011).

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